

ABSTRACT

A permissible range of a restriction object amount, which is a vertical component of a floor reaction force moment or a component of the floor reaction force moment in floor surface normal line direction, or a vertical component of an angular momentum changing rate of the robot or a component of the angular momentum changing rate in floor surface normal line direction, is set, and at least a provisional instantaneous value of a desired motion is input to a dynamic model so as to determine an instantaneous value of a model restriction object amount as an output of the dynamic model. An instantaneous value of a desired motion is determined by correcting the provisional instantaneous value of the desired motion such that at least the instantaneous value of the model restriction object amount falls within the permissible range.